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REMARKS

Reconsideration of the above referenced application in view of the enclosed amendment and remarks is requested. Claims 24, 28, and 40 have been amended. Newly added Claim 43 has been offered as a generic claim to (now) dependent claims 24 and 28. Newly added Claim 44 is added to recite elements specific to Group III. Newly added Claim 45 is added to recite elements specific to Group IV. Claims 37-39 are canceled. Claims 1-36 and 40-45 remain in the application. Applicant notes with appreciation, the Examiner has indicated that Claim 1 is generic to all species. Claim 40 is amended to correct a minor grammatical error of a missing word. This amendment does not change the scope or meaning of the claim as originally filed.

ELECTION:

The Examiner has noted that the application contains claims directed to four patentably distinct species, namely:

Group I. Rounding using a truncation technique, as recited in Claims 2-3, 18-20, and 31-33.

Group II. Rounding using a technique to round the input value to the nearest integer, as recited in Claims 4-7, 21-23, and 34-36.

Group III. Rounding using a technique to round the input value toward minus infinity ("floor" rounding), as recited in Claims 8-12, 24-27, and 37-39.

Group IV. Rounding using a technique to round the input value toward plus infinity ("ceiling" rounding), as recited in Claims 13-17, 28-30, and 40-42.

In response to the restriction requirement, Applicant hereby elects Group III comprising Claims 1 (generic), 8-12, 24-27, with traverse.

First, Applicant respectfully submits that the restriction is improper. Second, even assuming the restriction is made final, Applicant believes that he is entitled to examination of additional claims. Specifically, Applicant respectfully requests that Claims 18-20 be added

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to the election of Group III since they are believed to be generic to all species. Newly added Claim 43 is offered as generic to Groups III and IV, and should be considered. Claims 37-39 are canceled and Claims 40-42 are believed to be generic to Groups III and IV and should be considered. Newly added Claim 44 is believed to fall within Group III and should also be considered.

With regard to Claims 18-20, Figure 1B illustrates a rounding apparatus 175. The rounding apparatus is shown in all four species as 200, 300, 400, and 500 (Figures 2-5). Each of the apparatuses *accepts a floating point input value* 205, 311, 414, and 514, as recited in Claim 18. Each apparatus *converts the input value to a first integer* 215, 333, 418, and 518, as recited in Claim 18. Each apparatus *converts the first integer represented to a second integer* 255, 335, 446, and 546, as recited in Claim 18. As described in the specification and shown in the figures, each species has a second integer that may be *stored as an output value*, as recited in Claim 18.

Regarding Claims 40-42, the apparatus claimed in Groups III and IV are very similar. Rounding to minus infinity and rounding to plus infinity differ in the process of generating the Boolean mask. These differing limitations are recited in newly added Claims 44-45. Thus, Claims 40-42 are believed generic to Groups III and IV and should be considered. Claim 45 recites that the comparison generates a true Boolean mask when the fractional portion is less than the real value of 0.0. This limitation is directed toward Group III. Claims 37-39 are provisionally canceled so that Claims 40-42 may be considered with Group III, instead.

The above notwithstanding, Applicant respectfully submits that the restriction is improper. First, the Examiner has provided no explanation in support of the restriction requirement beyond generic boilerplate paragraphs. As set forth in MPEP § 808, "*Every requirement to restrict has two aspects:*

(A) the reasons (as distinguished from the mere statement of conclusion) why the inventions as claimed are either independent or distinct; and

(B) the reasons for insisting upon restriction therebetween..."

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Further, for a restriction requirement to be proper according to MPEP § 803, citing MPEP § 806.04 and 806.05, under the statute an application may properly be required to be restricted to one of two or more claimed inventions only if they are able to support separate patents and they are either independent or distinct. However, *"if the search and examination of an entire application can be made without serious burden, the examiner must examine it on the merits, even though it includes claims to independent or distinct inventions."* MPEP § 803. Here, Applicant notes no substantial distinctions between Groups I, II, III and IV which would necessitate a serious burden. Indeed, all groups are related to a floating point rounding apparatus with a difference between the groups substantially being the selection of which rounding algorithm to use in the apparatus.

In addition, the rounding apparatuses of Groups III and IV are similar enough to have a newly offered generic Claim 43. Groups III and IV differ in that one adjustment value is derived from addition and one adjustment value is derived from subtraction. While the additive comparison (i.e., adding vs. subtracting) may be implemented differently in hardware, software or other computing apparatus, mathematically, addition and subtraction are identical operations. Thus, it is practical to examine at least Groups III and IV together. However, it would also seem that a prudent search for all of the groups would overlap and thus be co-extensive. Additionally, it is not seen how one could limit search terms to search for only one species of the claimed rounding algorithms without finding relevant prior art in all of the species of rounding algorithms, if such art exists. Thus, no serious burden exists for the Examiner.

Further, the burden on the Applicant is believed to outweigh any burden there may be on the Examiner to search various embodiments of the invention, particularly since the searches would be co-extensive. Restriction would be unduly burdensome to Applicant, not only in time, but also in money, particularly considering the current filing and maintenance fee schedules.


Considering these factors, it is respectfully submitted that the restriction requirement is improper since Groups I, II, III and IV are indeed related. Moreover, the Examiner is respectfully requested to weigh the great burden a restriction would have on Applicant and withdrawal the restriction requirement.

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In view of the foregoing, it requested that restriction requirement be reconsidered, and examination on the merits to proceed.

Respectfully submitted,

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